DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE (IS:2386 Part 1)

Lab ID	:	**CP-RW-2017-05-22-01** **Date: 26-05-17**
Customer	:	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Address	:	Dasarahalli Sub Division, BBMP, Bangalore.
Project Name	:	Ward Development work in Ward No.14, in Bagalagunte.
Agency	:	Technical Manager(West), KRIDL, Project Implementation unit, NO. 280, 59th Cross, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagar, Bangalore.
Customer Reference	:	BBMP/EE/DD/WO/71/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	22-05-17
Sample ID No	:	2017-05-22-01/01
Type of Mix	:	Coarse Aggregate for BC (Bituminous Concrete)
Date of test	:	22-05-17

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 500-16
Flakiness Index	10.5%	Combined Flakiness & Elongation Index for BC is Maximum 35%
Elongation Index	11.8%	
Combined Flakiness and Elongation Index for BC	22.3%	

Note:
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Quallity Manager

Prepared By:
Harshitha

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SPECIFIC GRAVITY AND WATER ABSORPTION TEST
(IS:2386 Part III)

Lab ID	:	**CP-RW-2017-05-22-01** **Date: 26-05-17**
Customer	:	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Address	:	Dasarahalli Sub Division, BBMP, Bangalore.
Project Name	:	Ward Development work in Ward No.14, in Bagalagunte.
Agency	:	Technical Manager(West), KRIDL, Project Implementation unit, NO. 280, 59th Cross, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagar, Bangalore.
Customer Reference	:	BBMP/EE/DD/WO/71/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	22-05-17
Sample ID No	:	2017-05-22-01/01
Type of Mix	:	Coarse Aggregate for BC (Bituminous Concrete)
Date of test	:	22-05-17

Sl.No	Details of Observations	Index	Unit	Test 1	Test 2	Mean Value
1	Weight of Wet aggregates + Basket suspended in water	A1	grams	2205	2156	
2	Weight of Empty Basket suspended in water	A2	grams	728	762	
3	Weight of Aggregates in water	A=A1-A2	grams	1477	1394	
4	Weight of Saturated Surface Dry aggregate	B	grams	2405	2272	
5	Weight of oven dried aggregate	C	grams	2400	2268	
6	Specific gravity	C/(B-A)		2.59	2.58	2.58
7	Apparent Specific gravity	C/(C-A)		2.60	2.59	2.60
8	Water absorption	100*(B-C) /C	Percent	0.21	0.18	0.19

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TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2017-05-22-01** **Date: 26-05-17**
Customer	:	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Address	:	Dasarahalli Sub Division, BBMP, Bangalore.
Project Name	:	Ward Development work in Ward No.14, in Bagalagunte.
Agency	:	Technical Manager(West), KRIDL, Project Implementation unit, NO. 280, 59th Cross, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagar, Bangalore.
Customer Reference	:	BBMP/EE/DD/WO/71/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	22-05-17
Sample ID No	:	2017-05-22-01/01
Type of Mix	:	BC-Plant (Bituminous Concrete)
Date of test	:	22-05-17
Oven Dry Weight	:	5000 Grams

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	89	89	1.8	98.2	90-100
9.5	702	791	15.8	84.2	70-88
4.75	895	1686	33.7	66.3	53-71
2.36	587	2273	45.5	54.5	42-58
1.18	492	2765	55.3	44.7	34-48
0.6	503	3268	65.4	34.6	26-38
0.3	528	3796	75.9	24.1	18-28
0.15	458	4254	85.1	14.9	12-20
0.075	350	4604	92.1	7.9	4-10
PAN	396	5000	100	0.0	0

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TESTS RESULTS ON STABILITY OF MIX

Lab ID	:	**CP-RW-2017-05-22-01** **Date: 26-05-17**
Customer	:	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Address	:	Dasarahalli Sub Division, BBMP, Bangalore.
Agency	:	Ward Development work in Ward No.14, in Bagalagunte.
Project Name	:	Technical Manager(West), KRIDL, Project Implementation unit, NO. 280, 59th Cross, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagar, Bangalore.
Customer Reference	:	BBMP/EE/DD/WO/71/2017-18
Source of Sample	:	Hot Mix Plant, Bangalore
Sample Condition	:	Satisfactory
Date of Receipt	:	22-05-17
Sample ID No	:	2017-05-22-01/01
Type of Mix	:	BC (Bituminous Concrete)
Date of test	:	22-05-17

The results of the tests conducted on the Bituminous Concrete mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.14	11.03	10KN(min)
2	Marshal flow at 60°C, mm	3.52	3.61	2-4
3	Percent air Voids	4.82	4.73	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.28	14.16	13-15
5	Percent Voids filled with Bitumen(VFB %)	71.87	70.63	65-75
6	Density, g/cc	2.25	2.26	–

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TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID	:	**CP-RW-2017-05-22-01** **Date: 26-05-17**
Customer	:	Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.
Address	:	Dasarahalli Sub Division, BBMP, Bangalore.
Project Name	:	Ward Development work in Ward No.14, in Bagalagunte.
Agency	:	Technical Manager(West), KRIDL, Project Implementation unit, NO. 280, 59th Cross, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagar, Bangalore.
Customer Reference	:	BBMP/EE/DD/WO/71/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	22-05-17
Sample ID No	:	2017-05-22-01/01
Type of Mix	:	BC(Bitumenous Concrete)
Date of test	:	22-05-17

Type of Binder	:	60/70
% of Binder Used	:	5.0%
Weight of Aggregate	:	200.0 gm
Weight of Binder	:	10.0 gm
Temperature of water bath	:	40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	99.0	1.0	98.8	Minimum Retained Coating 95%
2	98.5	1.5		
3	99.0	1.0		

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TEST RESULTS OF GRADATION FOR BM
IS 2386 (Part 1) 1963 (RA 2007)

Lab ID : **CP-RW-2017-05-29-01** **Date: 30-05-17**

Customer : Assistant Executive Engineer, Dasarahalli Sub Division, BBMP, Bangalore.

Address : Dasarahalli Sub Division, BBMP, Bangalore.

Project Name : Ward Development work in Ward No.14, in Bagalagunte.

Agency : Technical Manager(West), KRIDL, Project Implementation unit, NO. 280, 59th Cross, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagar, Bangalore.

Customer Reference : BBMP/EE/DD/WO/71/2017-18

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 29-05-17

Sample ID No : 2017-05-29-01/01

Type of Mix : BM (Bituminous Macadam)

Date of test : 29-05-17

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	A	501	501
2	Weight of the sample After extraction	B	482	481
3	Bitumen percentage	$\frac{A-B}{A}$ X 100	3.79	3.99
4	Average percentage	%	3.89	

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Lab ID : **CP-RW-2017-05-29-01** **Date: 30-05-17**

Sample ID No : **2017-05-29-01/01**

AFTER EXTRACTION(Trail-1)

Oven Dry Weight(gm) : 482

IS Sieve Size(mm)	Weight Retained(gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-7(grading -2)
26.5	0	0	0	100	100
19	16	16	3.3	96.7	90-100
13.2	68	84	17.4	82.6	56-88
4.75	245	329	68.3	31.7	16-36
2.36	86	415	86.1	13.9	4-19
0.3	43	458	95.0	5.0	2-10
0.075	18	476	98.8	1.2	0-8

AFTER EXTRACTION(Trail-2)

Oven Dry Weight(gm) : 481

IS Sieve Size(mm)	Weight Retained(gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-7(grading -2)
26.5	0	0	0	100	100
19	16	16	3.3	96.7	90-100
13.2	68	84	17.5	82.5	56-88
4.75	245	329	68.4	31.6	16-36
2.36	86	415	86.3	13.7	4-19
0.3	43	458	95.2	4.8	2-10
0.075	18	476	99.0	1.0	0-8

Note:-

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ಬಾಗಲಾದಂತೆ, ಬಿಬಿಎಂಪಿ
ಬೆಂಗಳೂರು

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